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These abstracts of important current articles, patents, and books are compiled by the LTF Research Department. They represent statements made by the authors and do not express the opinions of the abstractors or of LTF.

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Additional LTF services include a broad range of books, technical bulletins, and course and training materials of vital importance to all in the lithographic industry--from apprentices to top technical, production, sales, and management personnel.

Information on LTF publications, audio-visuals, the LTF Color Chart, Sensitivity Guide, and LTF instruments, can be obtained from the Lithographic Technical Foundation, 131 East 39th Street, New York 16, N.Y.

Requests for information about seminars, technical problems, literature searches, and technical and research consulting services should be addressed to LTF Research Department.

LITHOGRAPHIC ABSTRACTS, JULY 1961

PHOTOGRAPHY, TONE & COLOR CORRECTION

655.302

GRAND BOOK OF THREE COLOUR BLENDING. Anon. (Graphic Publishing Company - Price $45.00) Review in National Lithographer 68, No. 2, February 1961, page 74. Printed in both letterpress and offset showing more than 10,000 shades of color in two colors and black and three colors.

655.303

TIPS ON HANDLING COLOR COPY. Anon. Gravure 7, No. 2, February 1961, pp. 38-39, 60 (3 pages). Suggestions from a publications printer to customers describing how color copy is reproduced. Separation, corrections and masking, etc. to help him understand the problems involved. Ten general suggestions are offered, such as: include specific instructions with copy, avoid brilliant hues that cannot be reproduced by process inks, etc.

655.332

EASTMAN MATRIX PUNCHED FILM POSITIVES. Martin Moyer. Gravure Technical Association Bulletin 12, No. 1, February 1961, pages 18-20, 22 (4 pages). Explanation of a punch and pin system for film positives for use in gravure with both conventional gravure and Dultgen systems. Time savings in the layout department are about 25%. Better color register results. The procedure used is given. 1 Illustration.

655.302

AN ELECTRONIC PROOF PREVIEWER. Richard J. Farber. Gravure Technical Association Bulletin 12, No. 1, February 1961, pp. 28-32 (5 pages). A progress report on an electronic device which uses a set of photographic separations to produce a television-type color image. The operation is described with the aid of diagrams. 2 References, 3 Illustrations.

655.302

CLEANING CONTACT SCREENS. Herbert P. Paschel. Modern Lithography 29, No. 2, February 1961, pages 59, 123 (2 pages). In answer to a request, author gives precautions on handling and cleaning contact screens. The suggestions on cleaning are based on the type of soiling involved.

655.303

COLOR PROOFS. Erwin S. Koval. Printing Magazine, Vol. 85, No. 2, February 1961, pp. 97 (1 page). Watercote is a process for making color proofs from corrected separations. It gives fast evaluation of work done before the plates are made and in one trade shop meets about 30% of customer's needs. 4 Illustrations.

655.302

COLOR NEGATIVE MASKING. A. Matheson. The Litho-Printer 4, No. 2, February 1961, pp. 95-98 (4 pages). The color negative-positive is growing in popularity with photographers due to its flexibility and scope for control. The color negative can serve as a source of separation positives for photomechanical reproduction. In this it can save several steps in halftone production. Masking is still necessary due to the deficiencies in printing ink colors. This masking differs from that for positive transparencies due to: 1. Lower contrast of negative. 2. Differences in colors which are not true complementaries. 3. Integral masks in negatives. Halftone positives

are arrived at via a continuous tone separation positive, or by direct screening. These are described and their merits compared. Attempts to accomplish the desired result by other means, such as the Agfa Kom-bi and Gevaert Multi-Mask films and LogEtronic electronic method, are described briefly. 2 Illustrations.

655.302

MULTIMASK - A NEW STANDARDIZED COLOR MASKING FILM AND PROCESS. Ford P. Ray. Gravure Technical Association Bulletin 12, No. 1, February 1961, pp. 22-26 (6 pages). This Gevaert film for use in photoengraving, lithography and gravure has had 18 months trial in Europe, is now being introduced to the American market. It basically does the complete masking work expected of a conventional set of six masks plus a highlighter. It is made up of three emulsion layers of different color sensitivities and with different color couplers incorporated. It can be used for transparency or opaque copy and by contact. The whole procedure of its use is explained with the aid of a series of 4 diagrams.

771.534

THE CHARACTERISTIC CURVE. Joseph P. Halbherr. Gravure 7, No. 2, February 1961, pp. 24-27,63 (5 pages). A properly charted characteristic curve will indicate the contrast of copy in comparison with original and show deviations. Its origin and the method of preparing it are explained briefly. Diagrams are used to illustrate toe, straight line portion, shoulder and gamma. The use of the curve to search out inconsistencies in processing, etc., and to serve as a guide to better results are explained in some detail. 3 Illustrations.

655.302

IMPROVEMENTS IN TRANSPARENCY MASKING. John M. Lupo, Jr. Modern Lithography 29, No. 2, February 1961, pp. 53-54, 123 (3 pages). The three basic procedures of 1. Contact Masking; 2. Camera Back Masking; 3. Two Stage Masking are explained briefly. The new Multimask film for masking purposes is described briefly. 4 References.

152.1

FABER BIRREN SEES RESEARCH AS VITAL TOOL IN EVALUATION OF FUTURE TRENDS IN COLOR. Anon. Printing News LXVI, No. 7, February 18, 1961, pp. 17-18 (2 pages). Report of a talk on color trends such as in consumer color preferences. Variations in these preferences are shown in 2 graphs covering the period from 1952 to 1962.

771.448

XENON LAMPS AS LIGHT SOURCE IN REPRODUCTION. Gustav Neugebauer. Der Polygraph, 4-1961, 20 February 1961, pp.R5-R7 (3 pages). Article in German. 5 Illustrations and a Table.

655.302

THE UNIVERSAL CONTACT SCREEN. F. G. Wallis. The Litho-Printer 4, No. 2, February 1961, pp. 69-70 (2 pages). The contact screen has been much used by lithographers and is now attracting the attention of photoengravers since it fits the powderless etching technique. It has been available in magenta and gray, both adapted for either lithography or photoengraving. A new screen is described in which dots, instead of being arranged in "checkerboard" pattern are in line without intermediate clear areas. The difference in patterns of the two types of screens are illustrated. The screen is neutral in color, is suitable for litho or photoengraving, needs no flash exposure.

655.302

*PHOTOELECTRIC UNSHARP MASKING APPARATUS. Monroe Farber, assigned to Fairchild Camera and Instrument Corp. (*U.S. Patent 2,972,012 - Application October 9, 1959). Official Gazette 763, No. 2, February 14, 1961, p. 479. In a system for deriving from a color object a plurality of color-separation-representative signals and including means for optically scanning said object to develop one or more light beams representative of the luminance and chrominance of successive elemental areas of said object, photoelectric unsharp masking apparatus for deriving from said light beam or beams color-separation-representative signals with sharpened boundaries comprising: an optical system exposed to said light beam or beams including a sharp aperture and an unsharp aperture for respectively developing a sharp beam and an unsharp beam and beam-splitting means and filter means in the path of said sharp beam for producing a plurality of color-separation beams; a plurality of photoelectric devices individually exposed to said color-separation beams and to said unsharp beam for developing signals individually representative thereof; a plurality of signal channels for individually translating said color-separation-representative signals to an image-reproducing device; means for developing a signal representative of the luminance of said sharp beam; means for differentially combining said luminance signal and the signal representative of said unsharp beam to develop a control signal; and means responsive to said control signal for similarly modifying the outputs of said signal-translating channels to sharpen the boundaries of a reproduced color image without affecting the color balance thereof.

655.303

PASTING UP CAMERA COPY - Second of a Series on Copy Preparation. Charles C. Ball. The Graphic Arts Monthly 33, No. 2, February 1961, pp. 68,70, 72-74 (5 pages). If the paste-up is prepared by the layout artist, the camera man knows if it is ready to shoot. The making of a paste-up is gone through step-by-step with full explanation. 4 Illustrations.

PLANOGRAPHIC PRINTING PROCESSES

655.323

THE OFFSET PROOFING PROBLEM. Anon. The Lithographer and Offset Printer 57, No. 2, February 1961, pp. 18-20 (3 pages). Description of the new Mailander Offset Proofing Press. Five sizes from 18 1/8 x 25½ to 40 1/8 x 55 7/8 in. are available with a larger press in preparation. 1 Illustration.

655.328

*DAMPENING DEVICE AND METHOD FOR LITHOGRAPHIC OFFSET PRINTING PLATE. Harold P. Dahlgren. (U.S. Patent 2,972,544 - Application April 9, 1956) Official Gazette 763, No. 4, February 28, 1961, p. 766. A plate dampening device for a lithographic offset printing machine comprising a dampening fluid container disposed on said machine and adapted to contain a quantity of dampening fluid; a fluid supply roller rotatably mounted on the machine and disposed in said container with one side thereof adapted to be immersed in said fluid; fluid transfer means arranged to transfer dampening fluid received thereby to the surface of said plate by pressure contact application, said fluid transfer means including a fluid transfer roller rotatably disposed on the machine in parallel and spaced relationship to the supply roller, a cylindrical brush rotatably mounted on the machine having springy bristles thereon, with the exposed surface of the said supply roller impressed into the bristles of the brush; the peripheral surface of said brush extending into the region separating the opposed curved surfaces of the transfer roller and the supply roller; and means to rotate the brush, transfer roller and supply roller, whereby as the supply roller and brush rotate the bristles are released from the roller to atomize and project the fluid from the surface of the supply roller through said region directly against the surface of the transfer roller.

A method of applying lithographic plate dampening liquid to the surface of a lithographic plate carried by a rotating cylinder having a gap therein by pressure contact with liquid transferring means running in surface contact with said plate for maintaining ink repellent the non-printing areas thereof, comprising the steps of: providing and renewing a thin film of dampening liquid of predetermined thickness on a supporting surface generally parallel to the cylinder, engaging said supporting surface in a narrow band of contact with the ends of a multiplicity of springy brush bristles located closely adjacent but spaced from said liquid transferring means to cause deflection of the bristles, maintaining said liquid transferring means closely adjacent but spaced from said bristles and so related to the plane tangent to said bristles at said narrow band as to intercept and confine atomized liquid flicked by said bristles from said narrow band, moving the bristles and said supporting surface relatively to each other to allow the bristles to spring back to undeflected positions with resultant flicking of the liquid in finely atomized form from said narrow band through the adjacent relatively quiescent body of air toward and onto the surface of said liquid transferring means and transferring the liquid received by said transferring means to said lithographic plate by rolling contact under pressure.

655.326

pH DON'T RUN IT DOWN. William E. Yochheim. National Lithographer 68, No. 2, February 1961, pp. 34, 35, 48 (3 pages). Understanding and control of pH of dampening fountain solutions can lessen plate, ink, drying and set-off problems, and are important to continued good press performance. The solution, a "dilute acid" is explained and the effects of various pH levels pointed out: low pH, more acid, more attack on plates, non-image areas become more sensitive, scumming starts, etc. Suggested levels for pH for various jobs are given.

655.324

PLATE SELECTION. C. Stewart. The Litho Printer 4, No. 2, February 1961, pp. 81-82, 84, 87 (4 pages). A variety of factors have led to the introduction of new types of plates. The former normal zinc and aluminum plate is giving way to other plate surfaces. While plates and preparation methods are being constantly improved, caution is advised as it takes time to get familiar with a change. Smooth plate surfaces are no longer a hazard. Several types of plate are discussed giving pros and cons: - deep-etch, multi-metal, anodized, pre-sensitized. Reasons governing selection of one plate or another are given.

PAPER AND INK

655.307 : 655.306

*PRINTING PROCESS AND APPARATUS. Albert E. Gessler, Vincent S. de Marchi and William van Kirk, assigned to Interchemical Corp. (U.S. Patent 2,972,301 - Filed April 6, 1954). Official Gazette 763, No. 3, February 21, 1961, p. 579. The method of printing on a moving web of paper by a process in which an ink is distributed over an extended distribution system to a printing plate and in which the ink contains a volatile solvent which will cause the ink to dry up on the distribution system under ordinary ambient conditions, which comprises maintaining a concentration of ink solvent vapor in the atmosphere over the ink distribution system in such a relationship to the temperature of the ink film on the distribution system that the ink temperature does not exceed the solvent vapor dew point temperature by more than a few degrees centigrade, by preparing at a point out of contact with the distributing system a gas containing high concentrations of ink solvent vapor, and continuously feeding said gas to the vicinity of the distribution system at such a rate as to replace such gas as is removed from the vicinity of the distribution system by the action of the moving web and other causes.

655.307

*METHOD AND MEANS FOR MEASURING INK FILM THICKNESS. John R. Bradford and D. N. Adams, assigned to Harris-Intertype Corp. (U. S. Patent 2,971,461 - Application April 22, 1955). Official Gazette 763, No. 2, February 14, 1961, pp. 336-337 (2 pages). The method of controlling the amount of liquid coating material being applied to a base member as it passes through a machine which includes cylinder means for applying the coating material to the base member comprising at least one roll normally having a coating thereon of said material the thickness of which is indicative of the thickness of the coating applied to said base member, supplying the material to said roll to provide a coating of said material thereon, determining the thickness of the coating on said roll by subjecting the coating thereon to radiation to establish a radiation field which varies in accordance with the thickness of said coating, measuring said radiation field to ascertain the thickness of said coating and controlling the supply of the coating material to said roll in accordance with the radiation field to control the thickness of the coating applied to said base member.

655.307

*VARIABLE VELOCITY DIFFUSER. Vincent S. de Marchi, assigned to Interchemical Corp. (U.S. Patent 2,972,299 - Filed August 21, 1956). Official Gazette 763, No. 3, February 21, 1961, pp. 578-579 (2 pages). In a printing press with an extended distribution system comprising a set of rollers, means for producing a gas other than the ambient atmosphere, a series of diffusers with openings for directing the gas so produced into a plurality of the advancing nips of the roller couples to blanket the rollers, valves in the opening capable of changing the amount of gas coming from the openings, said valves comprising a continuous elastic coil adapted to close the opening, mounted on a series of individually operable valve stems, and means to operate the valves at differential settings across the diffusers whereby the amount of gas coming from the diffuser may be varied across its width.

676.27

PAPER-THE MM SYSTEM FOR BASIC WEIGHTS. William H. Bureau. The Graphic Arts Monthly 33, No. 2, February 1961, pp. 50, 52, 94 (3 pages). The proposal to standardize on one basic weight: 25x40 - 1000 dates back over 30 years. We now have 12 or so basic weights with several sizes (17x22, 24x36, 25x38, 20x26) and three counts (480, 500, 1000). The resulting confusion is amplified upon. The 25x40 - 1000 uses 1000 sheets of 1000 sq. in. each and is designated MM/wt. For instance 20 lb. 17x22-500 = MM/107. Some thoughts on transition to the MM system are offered.

655.307

*METHOD AND APPARATUS FOR AUTOMATIC TEMPERATURE CONTROL OF ROTARY PRINTING PRESS INK ROLLERS. George H. Shindle. (U.S. Patent 2,971,460 - Application March 30, 1959). Official Gazette 763, No. 2, February 14, 1961, p. 336. The method herein described of heating ink in a rotary, web-fed printing press, wherein the web is subjected to heating for drying of the ink thereon, which method consists in passing a liquid coolant through a device for cooling the web after its passage through the dryer, circulating said liquid coolant so heated in heat transfer relationship to the ink before its application to the web in the printing operation, and regulating the temperature of the heated coolant by mixture therewith of unheated coolant before it comes into heat transfer relationship with the ink to be heated thereby.

655.08

THE PATRA TEST BENCH. Anon. The American Pressman 71, No. 2, February 1961, p. 38. This "packaged laboratory" is now available to printers in the U. S. The tests which can be done on paper and print are listed and the equipment described and illustrated. Price is $1500, with shipping charges estimated at $150 additional.

676.283

SURFACE COATINGS WITH IMPROVED PRINTABILITY. John O'Donnell. The Litho Printer 4, No. 2, February 1961, pp. 93-94 (2 pages). Properties of coated paper that affect printing quality are: surface strength, wet rub resistance, opacity, brightness, smoothness and refractive index of coating pigment. Controlling these factors in paper making in relation to letterpress and lithographic printing are discussed in terms of pigments, binders and coating methods. Better synthetic binders are an objective of chemical research.

676.27

FINE PARTICLE PIGMENTS IN PAPER - 1 - EVALUATION OF OPTICAL PROPERTIES. M. P. Boland and B. J. DeWitt. Paper Trade Journal 145, No. 7, February 13, 1961, pp. 37-39 (3 pages). Evaluation in finished sheet is limited by variations in sheet caliper, pigment retention, etc. An improved evaluation can be obtained by calculating specific scattering coefficient for the pigment. These calculations are explained in detail. 7 References, 1 Chart, 2 Tables.

667.5

NEUTRAL AND TINTED BLACKS. Dr. Wolfgang Fuhler. Der Polygraph, 3-1961, February 5, 1961, pp. 96-99 (4 pages). Article in German.

676.2

LET'S RATIONALIZE SHEET PRODUCTION. D. C. Beaulieu. Paper Trade Journal 145, No. 8, February 20, 1961, pp. 36-38 (3 pages). Present finishing operations are discontinuous, hence open to all the hesitancy, delay and carelessness to which operating labor is subject. The finishing room shows lack of modern machinery and modern thinking. Author proposes modernization using machinery to do the work, man to watch, inspect, etc. Proposals include continuous sheeting by using flying pasters, automatic cutting and piling, conveyor system, and automatic trimming. One layout diagram.

655.306

*ASPECTS OF PRINTABILITY EVALUATION. G. Verhoeff, L. M. Lyne and W. Gallay. Pulp and Paper 35, No. 3, February 6, 1961, pp. 7, 56 (2 pages). From summaries of technical papers, CPPA Annual Meeting in Montreal, January 27, 1961. Abstract only available.

A survey of test methods, both physical tests of the paper and printing tests with the aid of a proof test.

667.5

REFLECTIONS ON GLOSS. Adolf C. Elm. Official Digest 33, No. 433, February 1961, pp. 163-180 (18 pages). The phenomena of gloss and gloss retention during normal service life of a finish have been extensively investigated by chemists, physicists and physiologists, yet they are not fully understood and entirely reiliable methods and instruments for measuring them are not available. The gloss meters employed in the paint industry measure the intensity of the light reflected by a given surface in a specular direction. They fail to take into account surface haze or bloom which detrimentally affect the sensation of glossiness. Improved gloss meters are urgently needed. Attempts to find a correlation between loss of gloss and changes in the surface structure of paint coatings during exposure were unsuccessful. It was concluded that light scattering from within the paint film is a dominant factor. Pigmented systems must be thoroughly deflocculated in order to yield the freedom from surface haze and the depth of gloss demanded of high grade enamels. 8 Illustrations, 2 Tables.

676.235

SYNTHETIC LATICES AS BINDERS FOR THE CLAY COATING OF PAPER. H. Yasuda and V. Stannett. TAPPI 44, No. 2, February 1961, pp. 96-102 (7 pages). A systematic study was made of the properties of paper coatings containing 10-20% of synthetic latex as binders for clay-pigment coating. Five latices, styrene-butadiene, acrylate copolymer, polyvinyl acetate and two vinyl acetate-dibutyl maleate copolymers were investigated both as all-latex pigment coatings and as 50-50 starch latex binders. The properties examined included pick resistance (adhesion and binding strength), varnish holdout, gloss, stiffness, smoothness, brightness and opacity. Vinyl acetate homopolymer was found to have poor binding power although the copolymers show promise for some applications. The effect of the polymer properties on the coating properties discussed in some detail. Since the latices were all thermoplastic the effect of the temperature and method of drying the coatings on the properties was carefully studied and correlated with the behavior of the free polymer. The method of water removal from the coating and the temperature at which film formation takes place is shown to affect the binding power to a considerable degree. Finally the effects of the temperature and pressure of the supercalendar on the gloss, smoothness, opacity and varnish holdout of the coating were investigated and correlated with the type of polymer used. 6 References, 14 Graphs and 10 Tables.

676.2

A NEW BOOK PAPER IS BORN. Burton L. Stratton. New England Printer and Lithographer 24, No. 2, February 1961, pp. 58-59 (2 pages). Harvard University Press and S. D. Warren Co. join in developing a special paper meeting 12 specific standards. Briefly, these are: 1. Two finishes - letterpress and offset, 2. Cost between commonly used and top quality papers, 3. Life expectancy over 300 years, 4. Good opacity, 5.55 to 60 lb. basis weight range, 6. Bulk specified, 7. Physical properties good, 8. Color specified and controlled, 9. Eggshell finish, 10. Watermarked, 11. Available in 10,000 lb. or greater lots, 12. Names University Text. Story told briefly. 2 Illus.

655,329

COATED WEB OFFSET STOCK BLISTERS. Charles W. Latham. The Inland and American Printer and Lithographer, Vol. 146, No. 5, February 1961, p. 62. Answer to a question about oven temperature to avoid blistering. Causes independent of oven are first discussed: weak coating or too tacky ink. Blistering in the oven is caused by moisture in the paper flashing into steam too rapidly. Ways of controlling this situation are given.

655.306

*RHEOLOGICAL PROPERTIES (ELASTICITY) OF PRINTING INKS AND THEIR EFFECTS ON INK TRANSFER. T. Enya. J. Jap. Soc. Col. Mater., vol. 33, No. 4, April 1960, pp. 176-9 (in Japanese). Printing Abstracts, Vol. 15, No. 11, November 1960, p. 649. The effect of the dynamic modulus of printing inks on ink transfer was investigated. The visco-elastic properties of four types of printing inks of equal viscosity but different modulus were investigated, and the visco-elastic properties measured with a coaxial cylinder type rheometer at low stresses. The sample prints were made on the Vandercook proofing press No. 4 and the amounts of ink transferred determined by weighing. It was found that the ink modulus had no influence on the amount of ink transferred to the paper in the form of a solid print under these conditions.

LITHOGRAPHY - GENERAL

655.326

SNAKED-OUT AREA SCUMMING PREVENTION. Eugene C. Bulinski. The Graphic Arts Monthly 33, No. 2, February 1961, pp. 130, 32, 34 (3 pages). The technique of polishing unwanted image off a plate with special abrasives is first described. Sometimes such areas later scum on the press. This can be because the plate area so treated is too smooth. Techniques for local hand regraining and etching are given.

655.329 :655.5

NEWSPAPERS BY WEB OFFSET - SOME AMERICAN MACHINES. Anon. The Litho Printer 4, No. 2, February 1961, pp. 66-68 (3 pages). A survey is cited showing the growth of web offset. 629 weeklies and 32 dailies are printed by the process, and another 779 weeklies and 118 dailies contemplate changing by the end of 1962. Web offset is making some progress in Europe and in Britain some printers are on the verge of installing web offset presses. Some advantages for small newspaper work are cited, such as quick plate change making short runs economical. Ease of printing of halftones and resulting circulation increase, the paper used, paste-up composition, savings in labor, etc. are discussed. Several presses are described and illustrated in both halftone and line diagram.

655.326

OFFSET BLANKETS FOR LITHO PRESS - No. 28 of "The How and Why of Carton Litho". John Jachimiec. Boxboard Containers 79, No.818, pp. 37-39 (3 pages). It is the rubber blanket that permits lithographic printing of high fidelity images onto paperboard. Two, three or four plies of fabric are laminated with synthetic rubber to make blankets .055, .065 or .075 in. thick. Synthetic rubber used today is better than natural rubber for this service. The handling of an offset blanket in mounting, care, use and storage are discussed.

655.329 : 655.5

OFFSET FOR SMALL-TOWN NEWSPAPERS. Anon. Modern Lithography, Vol. 29, No. 2, February 1961, pp. 28-9 (2 pages). Some reasons given for trend to offset are: 1. Quality 2. Can use more photos and art 3. Presensitized plates 4. Presses available 5. Speeds, particularly with web. Statistics are given from a survey by "American Press" showing present and planned distribution of presses by types. "The future lies in offset" according to one publisher. 2 tables.

655.07

WHERE YOUR LTF DOLLARS GO. John L. Kronenberg. (From a talk presented at the 28th annual convention of the National Association of Photo-Lithographers, Chicago) Modern Lithography, Vol. 29, No. 2, February 1961, pp. 42-3, 123, 125 (4 pages). A summary of the financial position of the Lithographic Technical Foundation showing that due to the endowment, owned buildings and equipment and loaned equipment, research value is 50 percent above the yearly income from dues. Some of the research and training activities are described briefly.

655.328

HOW TO AVOID STREAKS. Charles W. Latham. The Inland and American Printer and Lithographer, Vol. 146, No. 5, February 1961, pp. 60-62 (3 pages). A number of causes are discussed. Slippage because of smoothness of plate and/or paper or ink; type of work being run; roller conditions; improper packing; improperly set bearers, etc. are explained. A severe test for the condition of the press with regard to tendencies to streak is given. 2 diagrams.

655.329

WEB OFFSET TECHNICAL PROBLEMS. (Panel discussion) National Lithographer 68, No. 2, February 1961, pp. 40-44, 58, 60, 98-99 (9 pages). Report of a panel discussion at a P.I.A. Web Offset division meeting. Some of the questions discussed were: Plate pitting, PIV speed controls, progressive stretching of paper and register, failure of some inks to dry on some coated stock, web splices, cleaning rollers, blistering in the drying oven, sale of paper by the foot, paper stretching and roll defects and ink drying.

655.1 : 655.32

THE HISTORICAL BACKGROUND TO LITHOGRAPHY. B. W. Sansom. The British Printer 74, No. 2, February 1961, pp. 107-109 (3 pages). Describes briefly Senefelder's work with stone in 1796 and his efforts to make a relief process with the stone. The use of color, texture and tints and power presses handling stones up to 40x60 inches are described. Efforts to use metal plates resulted in zinc and aluminum in the early part of this century. Offset was first used in metal decorating for some time before printing on paper. Later press developments include feeders, higher speeds, multi-color and web offset. Multi-metal plates and improvements in inks and papers are the latest developments in this industry with a bright future.

GRAPHIC ARTS - GENERAL

655.307

*SHEET GRIPPER FOR PRINTING PRESSES. (U.S. Patent 2,972,300 - Filed April 23, 1959) Arthur B. Mitchell - assigned to Miehle-Goss-Dexter, Inc. Official Gazette 763, No. 3, February 21, 1961, p. 579. A gripper member for a printing press or the like machine comprising a base member, a sheet engaging surface on said member, a multiplicity of irregularly shaped grit particles distributed on said surface, said grit particles having a size of approximately .004 of an inch and being embedded to approximately one half grit particle size in a matrix of brazing material applied directly to said surface, whereby to provide the required inter-locking relationship with the sheet adapted to be gripped by the gripper member and said grit particles being selected from the group consisting of tantalum, zirconium, boride, berryllium, titanium, tungsten, silicon and boron carbides, aluminum and zirconium, titanium nitride and diamond particles.

655.08

THE DENSITOMETER AS A PRESSROOM AID. Charles Williams. The American Pressman 71, No. 2, February 1961, pp. 22, 24-25 (3 pages). The reflection densitometer can be used to control ink film thickness across a sheet or from run to run. While the instrument has been available 20 years, few pressrooms use it. Its operation is explained. A common use is to measure the customer's OK sheet, then use the instrument to match that throughout a run. A new type instrument which can be preset for several colors is described. 2 illustrations.

655.33

THE MEANING OF ROTO-GRAVURE IN EUROPE. Dr. Walter Matuschke. The Graphic Arts Monthly 33, No. 2, February 1961, pp. 16, 18, 20, 22 (4 pages). In Germany all magazines are printed in gravure with one weekly running 4 million. In France, three fourths of the magazines are printed rotogravure. In Italy and England all magazines are printed rotogravure. Figures on runs are given for each country. The dominance of gravure in magazine work is ascribed to better worker training. Some practices which have proved successful are described including: direct positive film, increased use of scanners, and masking film. Conventional gravure is most used.

655.302

QUALITY OF PRINTED HALFTONES ON PAPER. A. S. Porter. The Litho Printer 4, No. 2, February 1961, pp. 76-77 (2 pages). Research into print quality has encountered trouble in finding a yardstick to measure good and bad printing. Artists, craftsmen and laymen are not agreed on what constitutes good printing. Jorgensen's work at LTF is described.

655

THE INDUSTRY NOBODY KNOWS. Donald Thrush. Modern Lithography, Vol. 29, No. 2, February 1961, page 33. The author believes the industry is misunderstood by outsiders; needs a "well financed national public relations program." He also believes that due to the increase in combination plants, the same tendency should be followed in management and research organizations in letterpress, offset and gravure by mergers.

655.332

A NEW MAGENTA GRAVURE SCREEN. Anon. Der Polygraph, 4-1961, 20 February, 1961, p. 200 (1 page). Article in German.

655.315 : 655.316

COLOR AND REGISTER CONTROL. Earl C. Brown. Share Your Knowledge Review 42, No. 5, February 1961, pp. 17-20 (4 pages). (From an address presented at the 41st Annual International Craftsman's Convention, August 1960). Description of methods used at McCall's for publication runs of from 100,000 to 14,000,000. They provide and insist on the use of their proofing papers and inks. They prefer to make their own electros, using lead and vinyl for molding. Other electrotype making details are given, including work on laminated and plastic backed electros. Some new developments in electric eye equipment are used to control register on the press. The color quality control system is described.

655.02

SHOULD YOU MODERNIZE YOUR PRESENT PLANT? OR BUILD A NEW ONE? OR MOVE? Roy P. Tyler. The Inland and American Printer and Lithographer, Vol. 146, No. 5, February 1961, p. 47. Some basic principles governing these decisions are given and discussed. They are briefly: 1. Convenience to sources 2. Convenient to customers, etc. 3. Liklihood of floods, fires, etc. 4. Reliable and adequate utilities 5. Transportation for freight and personnel 6. Tax rates 7. Neighborhood improving? 8. Return on assets for the alternate decision.

655.28

TYPESETTING TAKES TOO MUCH TIME. Frank DeWitt. Printing Production 91, No. 5 February 1961, pp. 44-45, 108-109 (4 pages). Typesetting is repetitive and too much based on old technology. Author suggests that the remedy is to so plan that copy is typed or keyboarded only once, that automatic operation takes over from there. Suggested methods are: Use IBM Keypunch and let cards control from there on; type on a Flexowriter and get a perforated tape, etc. Methods of handling corrections are suggested. A flow chart for typesetting from author to printing surface is offered.

655.312

REVEALS NEW ENGRAVING METHOD. Anon. Printing Production 91, No. 5, February 1961, p. 42 (1 page). In this new method developed by RCA and ready for field testing, the metal plate is coated with an Electrofax type of coating, sensitized, exposed in the back of the camera, powder developed and the image converted into a photoengraving resist. The negative film step is eliminated and the operation shortened. Something similar for lithographic platemaking is being developed.

616.2

*DEATH OF A PRINTER FROM BRONCHIAL ASTHMA AFTER WORKING WITH WET SPRAYS. H. Groetschel and E. Trense. Arch. Gewerbepath. Gewerbehyg., Vol. 16, 1958, pp. 375-86 (in German) (D220.25/21,150). Printing Abstracts, vol. 15, No. 11, November 1960, page 707. The death of a Hessian printer and another case of printer's asthma are reported. Six other cases of death and 36 cases of illness from bronchial asthma were also examined. Printer's asthma is apparently in most cases due to gum arabic. Dry sprays may lead to local irritation of the mucous membranes of eyes and upper respiratory passages but do not cause asthma. Powders free from silica and organic constituents must be used. If the addition of Desmodurs to inks is necessary, they should be non-toxic types.

655.336 : 655.08

CROSFIELD IDOTRON. Herbert L. Weiss. Gravure Technical Association Bulletin 12, No. 1, February 1961, pp. 64-71 (8 pages). Variations in a rotogravure run can be caused by viscosity, doctor blade wear, cylinder wear and paper dust in the ink. To sense these variations, a photocell and shutter combination reads printed patches of each of the colors printed. By electronic means which are described, these signals are amplified, compared to a standard and used to indicate degree of variation from the standard. Studies indicated that the way to control the print was to keep ink viscosity constant and vary the pigment content. How this is done is explained. 16 illustrations.

655.313

HOW TO CHOOSE AN IMPOSITION. David Kass. Book Production, February 1961, pp. 41-43 (3 pages). The correct choice may mean the difference between profit and loss on a job. An example is used to explain the fine points of the choice in relation to trim and what is near the edges, type of stitching, location of gripper edge, etc. 5 illustrations in line.

655.28

HOW ONE PUBLICATION USES FILMSETTING. Mildred Weiler. Gravure 7, No. 2, February 1961, pp. 22-23 (2 pages). A simple procedure is outlined, starting with a dummy galley form for the original typing through the etching of the gravure cylinder. Certain advantages of filmsetting are given such as no filling in of some faces, faster and less expensive work. 2 illustrations.

655.1 :655.31

THE HISTORICAL BACKGROUND TO THE MAJOR PRINTING PROCESSES - LETTERPRESS. E. A. Cooper. The British Printer 74, No. 2, February 1961, pp. 105-106 (2 pages). Brief history covering the earliest work - that by Gutenberg, followed by Fust and Schoffer; Caxton and de Worde in England. In press development the work of Stanhope (iron hand presses) and Koenig (first cylinder press) are mentioned. Desirable features of a modern press are given.

655.33 :655.1

THE HISTORICAL BACKGROUND TO GRAVURE. H. M. Cartwright. The British Printer 74, No. 2, February 1961, pp. 109-110 (2 pages) Earliest work on photographic preparation of intaglio plates dates back to Nicephore Niepce and Fox Talbot (1852). Karl Klic in 1879 used the carbon process to provide a resist, leading to modern gravure printing. The process was first kept secret and only began to spread out about 1910. The modern process is described briefly.

655.307

*MACHINE FOR CLEANING OF PRINTING ROLLERS. Harold W. Gegenheimer (Assigned to Wm. Gegenheimer Co., Inc.) (U. S. Patent 2,970,541 - Application April 17, 1958) Official Gazette 763, No. 1, February 7, 1961, p. 73. Roller cleaning apparatus comprising an elongated flexible blade and means supporting each end of said blade for movement of said blade into and out of engagement with said roller with the plane of said blade when in engagement with the roller being substantially tangential to a curve described about the axis of the roller and at a distance therefrom approximately equal to one half the radius of the roller, at least the edge portion of said blade when out of engagement with said roller being curved inwardly from each end toward said roller.